Be Included. Be Involved. **Bee Informed.**

Bee Informed Partnership Overview & 2019 Recap

Ben Sallmann
Pacific NW Tech Team

The Bee Informed Partnership - Our Mission

- Improve colony health
- Support beekeepers
- Largest US repository for colony health data
- Bridge between science and industry

How we do what we do

Tech Transfer Team

Sentinel Apiaries

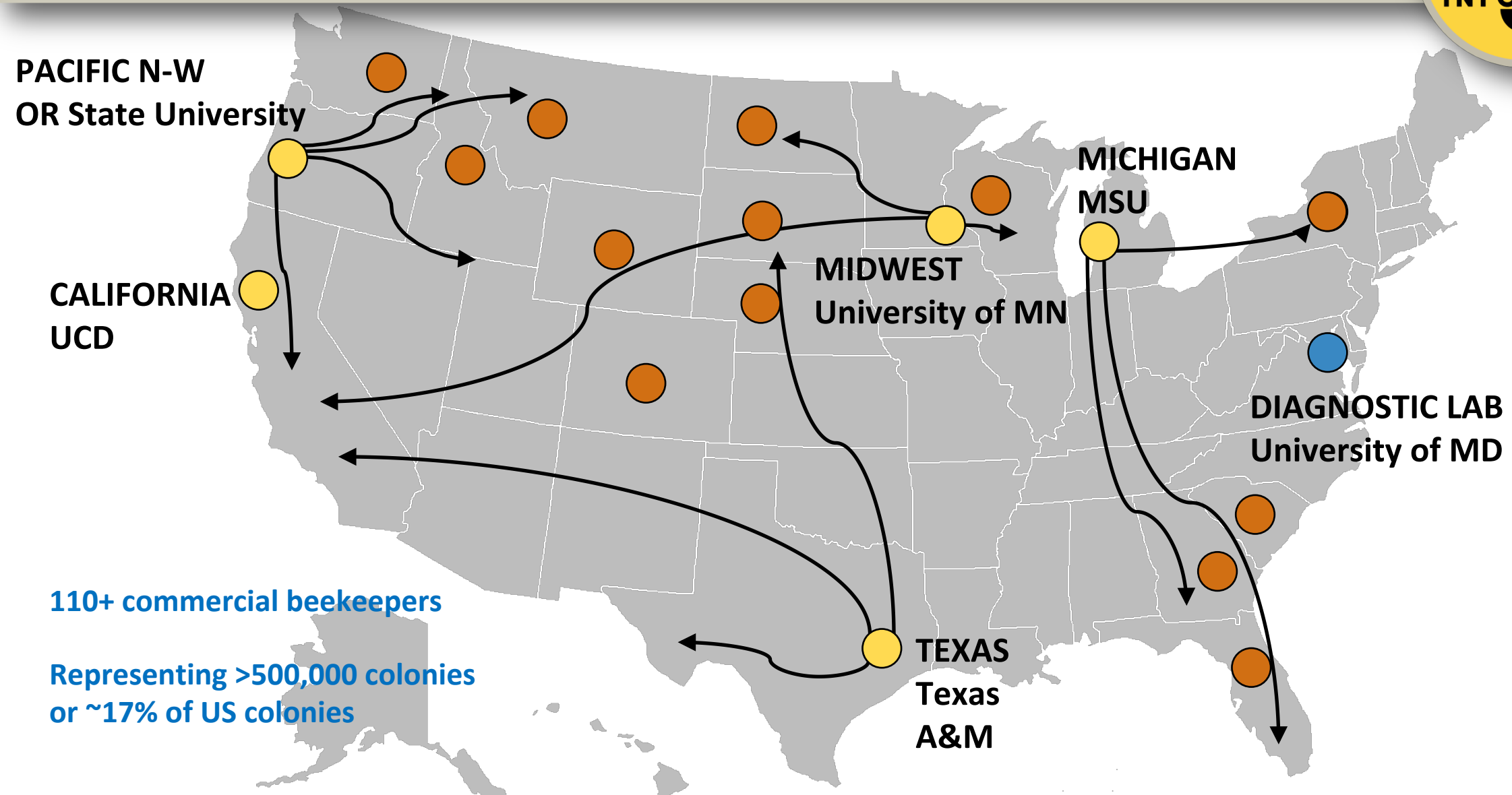
Emergency Response Kits

National Loss & Management Surveys

Field Trials

IT Products

Tech Transfer Teams

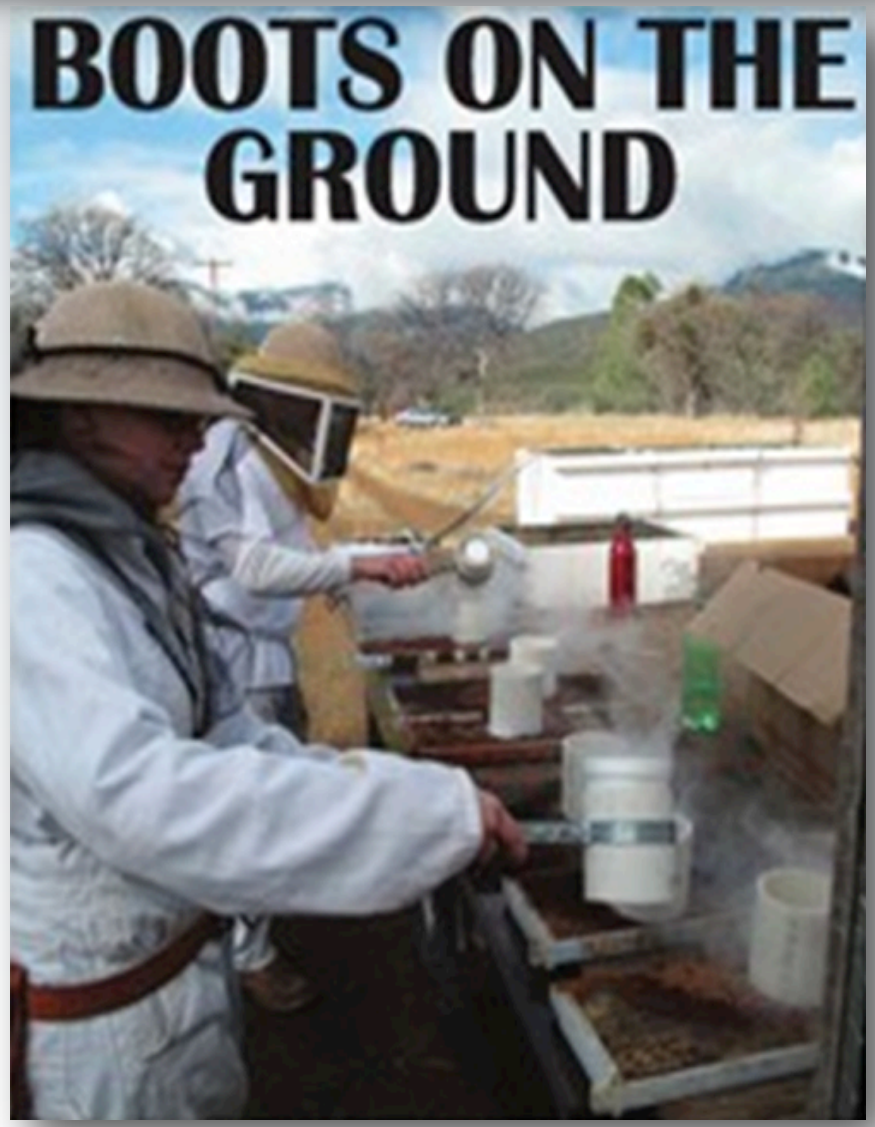


110+ commercial beekeepers

Representing >500,000 colonies
or ~17% of US colonies

Tech Transfer Team Professionals

- Colony inspection
- Diagnostics and Consulting
- Disease monitoring
- Hygienic testing
- Research trials
- Emergency visits



Colony Inspection/Evaluation

- **Colony Configuration**
- **Queen Status**
- **Frames of Bees**
- **Weight**
- **Brood Pattern**
- **Varroa/Nosema**
- **Other diseases & pests**

Varroa destructor Alcohol Wash

Real Time Reporting

Unique ID Code for All Beekeepers

Tech-Team Inspection Report

Bee Informed Partnership: BeeInformed.org

Your Beekeeper ID Code = **XX-MD**

Samples collected between **2/17/2013** - **2/18/2013**

See Data by Yard

Summary Varroa & Nosema per Apiary, during the above date range (excludes frames of bees = 0)

Yard Name	Varroa Average Mites/ 100 Bees	Varroa Minimum - Maximum	Nosema Average Millions of Spores / Bee	Nosema Minimum - Maximum	Frames of Bees Average	Frames of Bees Minimum - Maximum
Yard 1	0.1	0 - 0.5	3.6	1.1 - 6.8	9	5.5 - 12
Yard 2	1.2	0 - 6.1	2.4	0.5 - 5.9	7.5	3 - 11.5

Observations per colony, including previous records on the same colony

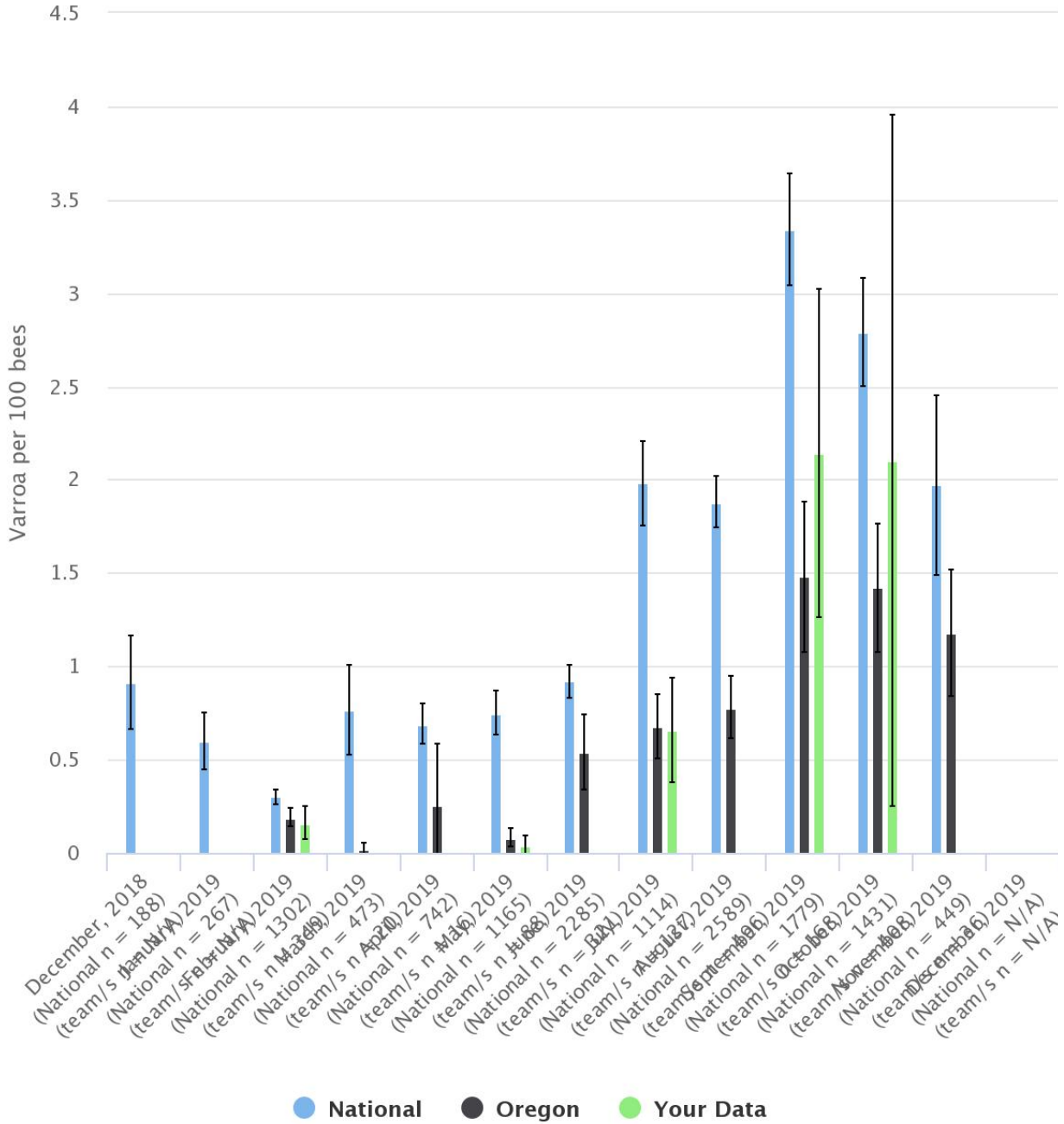
Sample Date	Yard	Hive #	Colony Type	Hive Body	Queen Status	Frames of Bees	Brood Pattern	Weight	Disease	# Mites/ 100Bees	Millions of Spores / Bee	Notes
6/14/2012	Yard 1	1645	Field	1D,	QS	10	3	.	.	0	0	1 Strip Added
8/26/2012	Yard 1	1645	Field	1D,	QS	8	2	.	.	0.3	0.1	
10/15/2012	Yard 1	1645	Field	1D,	QS	5	3	.	.	0	0.6	
2/18/2013	Yard 2	1645	Field	1D,	QS	3.5	2.5	.	Varroa, .	3	0.9	Most of Pollen Patty Left
6/14/2012	Yard 1	1646	Field	1D,	QS	13	3	.	CB, .	0.3	0.2	
8/26/2012	Yard 1	1646	Field	1D,	QR	12	4	.	.	3	0.1	.
10/15/2012	Yard 1	1646	Field	1D,	QR	8.5	3.5	.	.	0.3	0	.
2/18/2013	Yard 2	1646	Field	1D,	QS	4.5	3	.	.	2.4	3.3	No Eggs, Little Brood
6/14/2012	Yard 1	1647	Field	1D,	QS	15	4.5	.	.	0	0.2	Package Added
8/26/2012	Yard 1	1647	Field	1D,	QR	15	4.5	.	.	2.6	0.1	.
10/15/2012	Yard 1	1647	Field	1D,	QR	9	4	.	.	0	1	.
2/18/2013	Yard 2	1647	Field	1D,	QR	9	4	.	.	0	4.3	.
6/14/2012	Yard 1	1648	Field	1D,	QR	18	4.5	.	.	0	0.2	Essential Oil Patty

Highlighted Areas Compare New Data with Old

Red Numbers Indicate a Need for Action

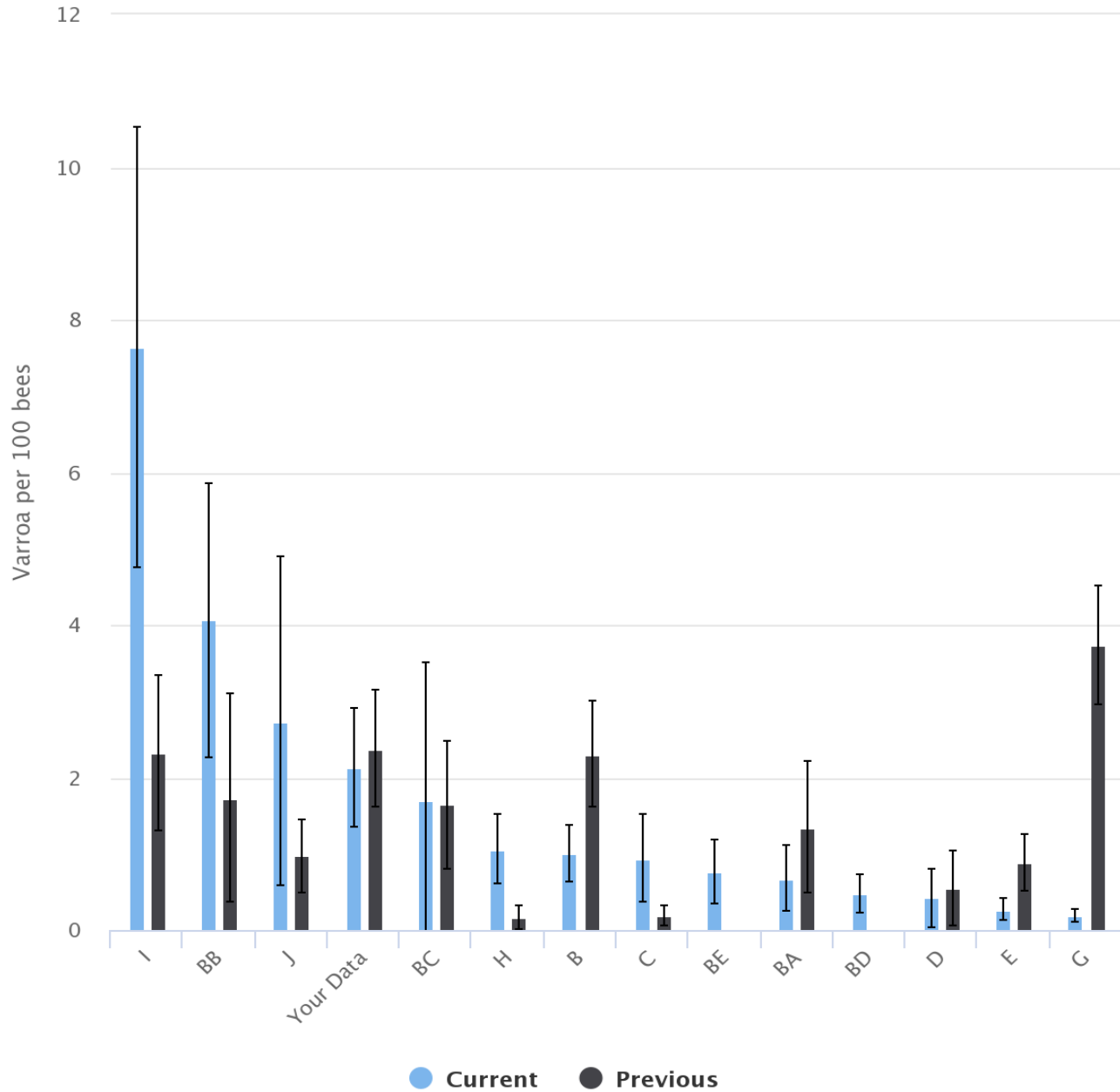
Varroa Levels, Average per Month for Past Year

for National levels (all tech teams), report tech teams, and your data. n = # of samples



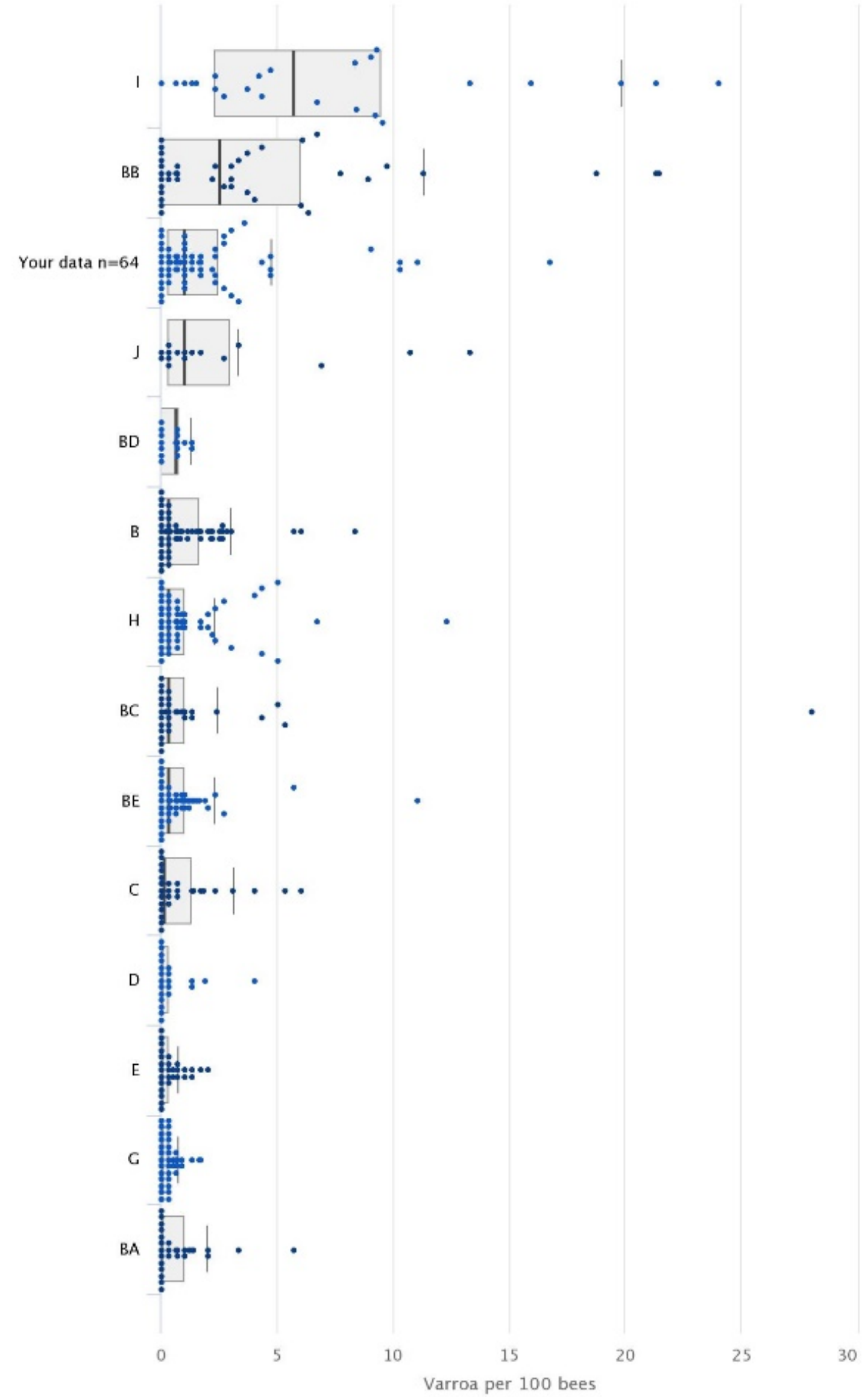
Varroa Levels, Average per Beekeeper

comparing the Current report period to the same time period last year (Previous), when available



Varroa Levels – Scatter Plot

Sept. 1, 2019 – Dec. 4, 2019
chart axis limited to 30 mites per 100 bees

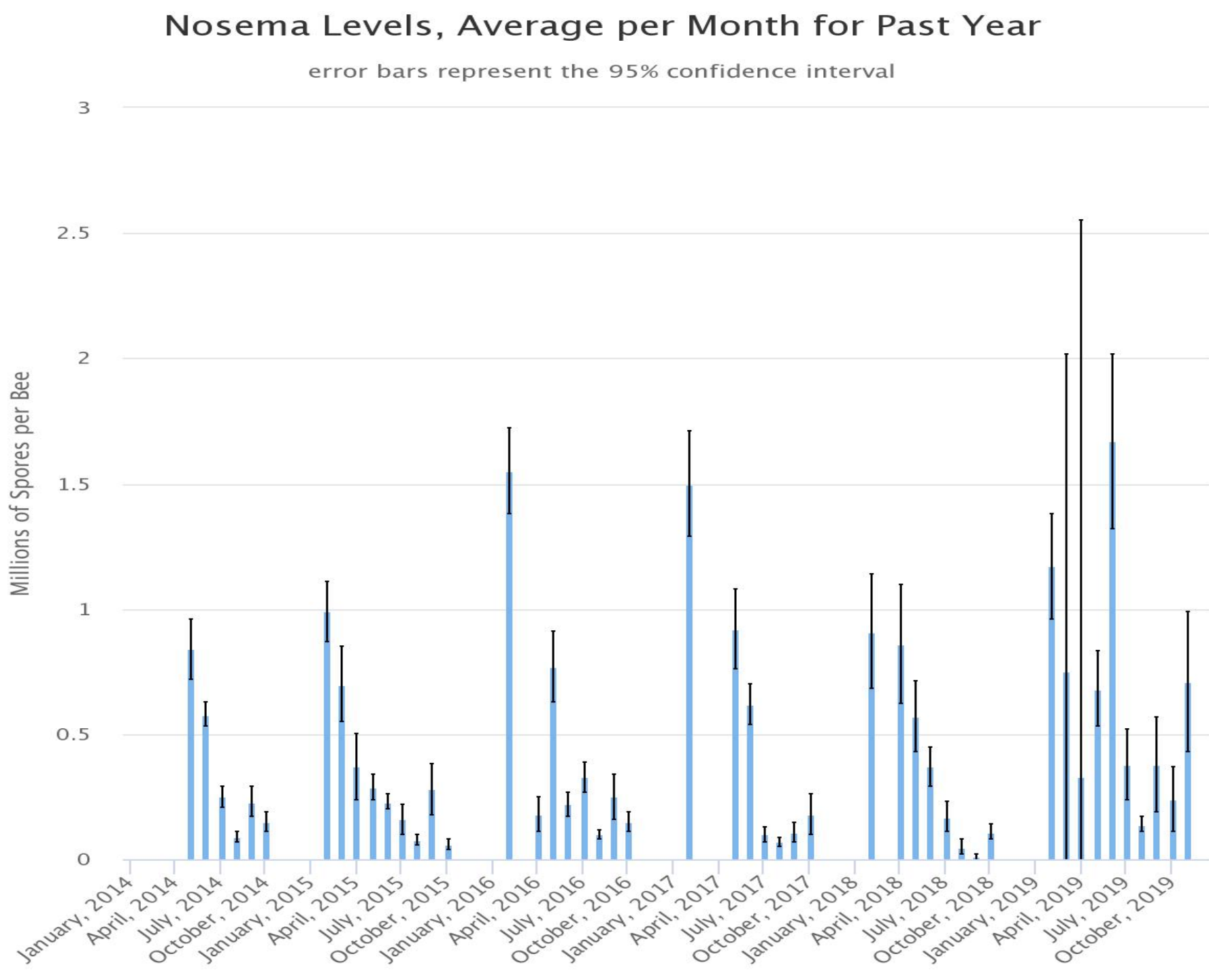


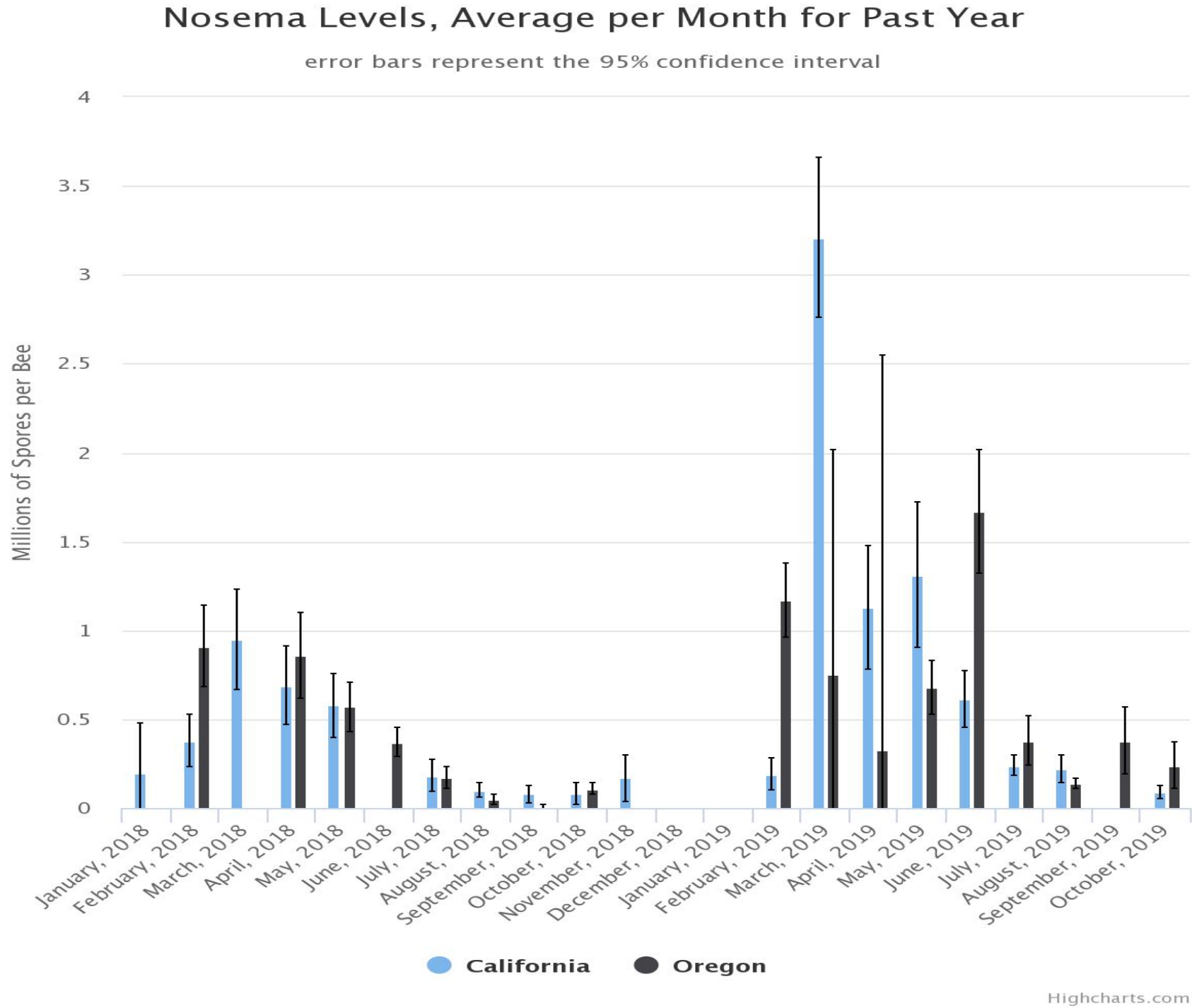
2019 Recap

- Difficult start to almond pollination
- Lower mite loads most of year
- Higher Nosema spore counts
- EFB and chalkbrood very prevalent
- Poor brood patterns/brood issues
- Honey crop variable

Almond Pollination

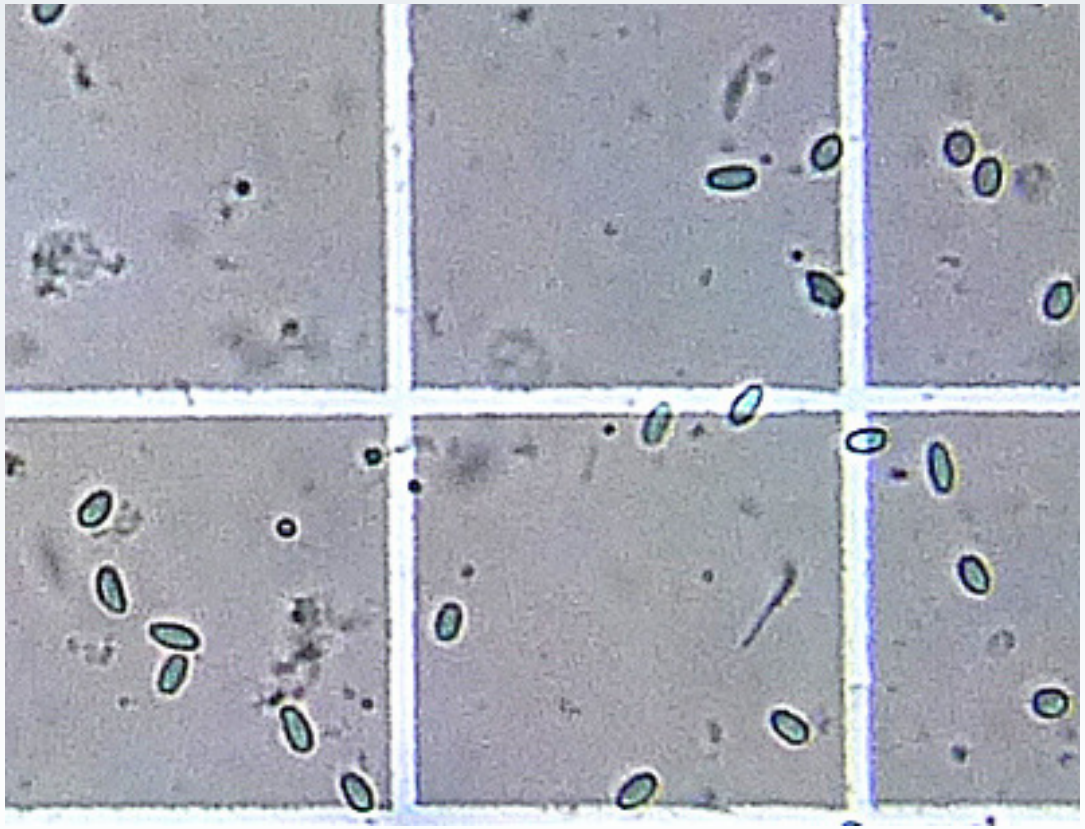
- Cold, rainy weather
- Late bloom=slow brood buildup
- Bees dwindled for much of Jan/Feb
- EFB/Chalk widespread

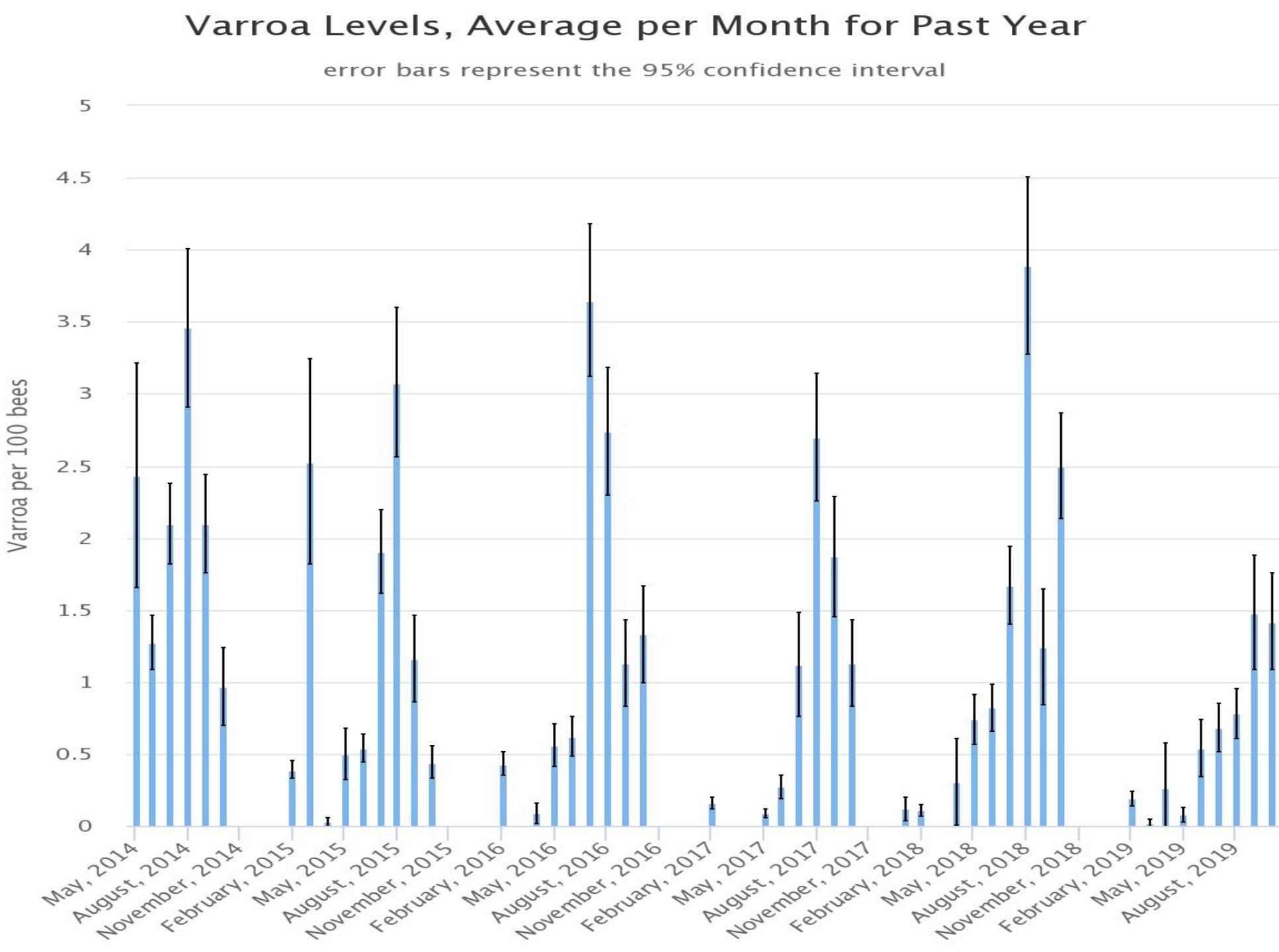

Nosema Levels, Average per Month for Past Year
error bars represent the 95% confidence interval
Millions of Spores per Bee
3
2.5
2
1.5
1
0.5
0
January, 2014
April, 2014
July, 2014
October, 2014
January, 2015
April, 2015
July, 2015
October, 2015
January, 2016
April, 2016
July, 2016
October, 2016
January, 2017
April, 2017
July, 2017
October, 2017
January, 2018
April, 2018
July, 2018
October, 2018
January, 2019
April, 2019
July, 2019
October, 2019


Nosema Levels, Average per Month for Past Year
error bars represent the 95% confidence interval
Millions of Spores per Bee
4
3.5
3
2.5
2
1.5
1
0.5
0
January, 2018
February, 2018
March, 2018
April, 2018
May, 2018
June, 2018
July, 2018
August, 2018
September, 2018
October, 2018
November, 2018
December, 2018
January, 2019
February, 2019
March, 2019
April, 2019
May, 2019
June, 2019
July, 2019
August, 2019
September, 2019
October, 2019
California
Oregon
Highcharts.com

Nosema

- High spore counts throughout year
- Posible causes:
  - Stress
  - Wet weather
  - Old bees in samples
  - Brood diseases
  - Fungicide exposure
  - Lack of treatment options




Varroa Levels, Average per Month for Past Year
error bars represent the 95% confidence interval
Varroa per 100 bees
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
May, 2014
August, 2014
November, 2014
February, 2015
May, 2015
August, 2015
November, 2015
February, 2016
May, 2016
August, 2016
November, 2016
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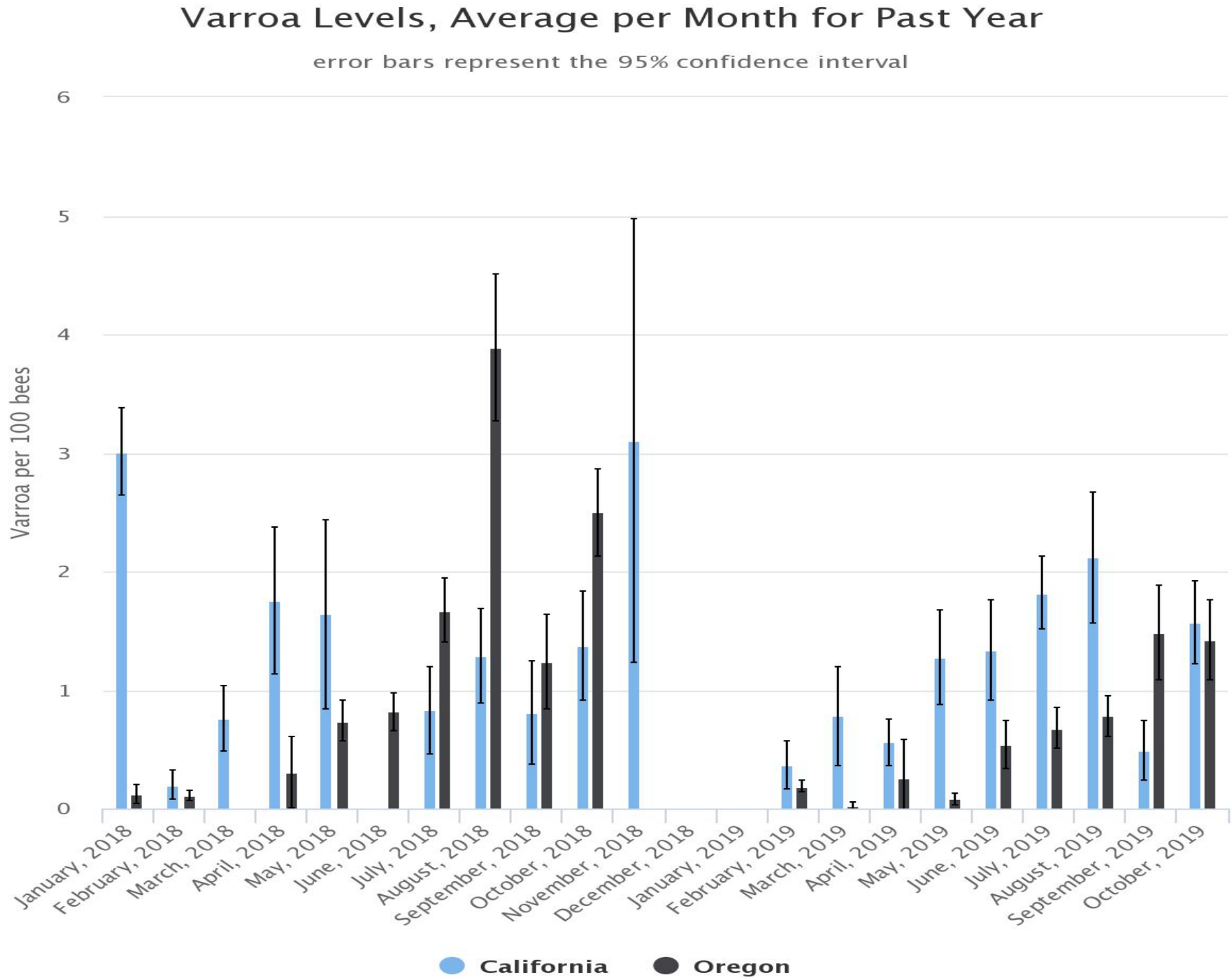
May, 2018
August, 2018
November, 2018
February, 2019
May, 2019
August, 2019


Varroa Levels, Average per Month for Past Year
error bars represent the 95% confidence interval
Varroa per 100 bees
0
1
2
3
4
5
6
January, 2018
February, 2018
March, 2018
April, 2018
May, 2018
June, 2018
July, 2018
August, 2018
September, 2018
October, 2018
November, 2018
December, 2018
January, 2019
February, 2019
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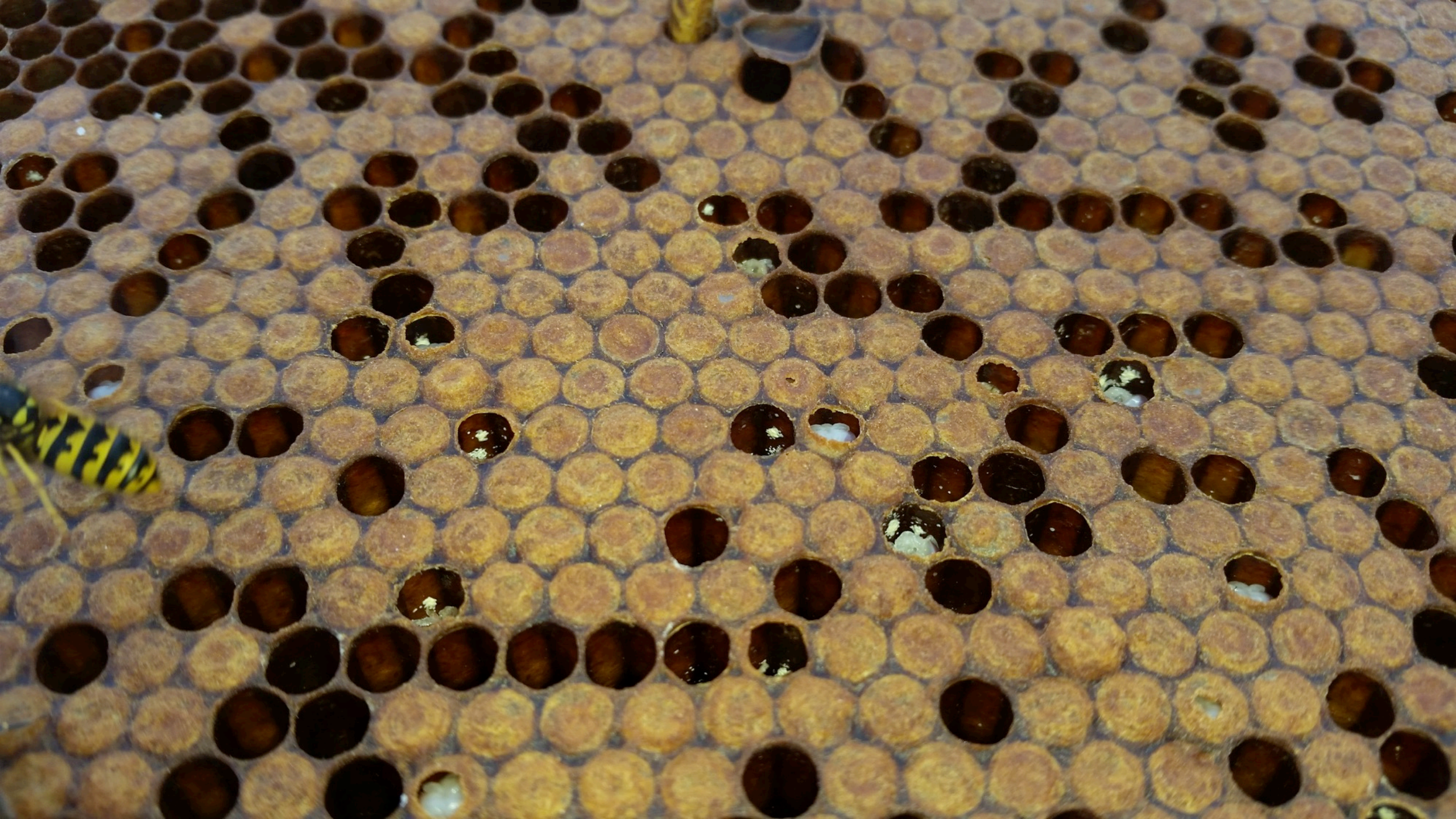
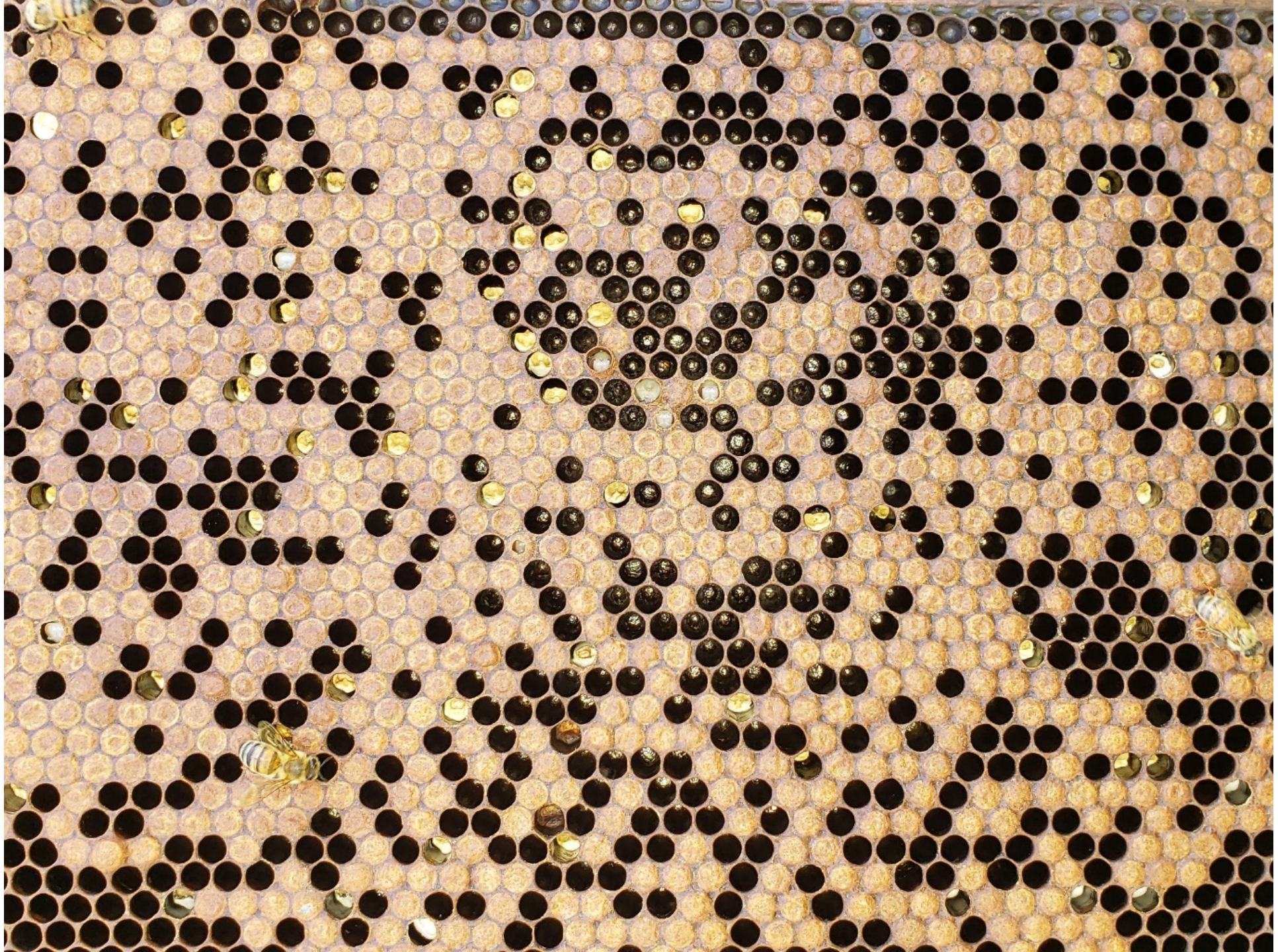
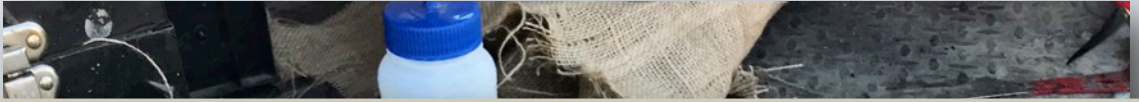
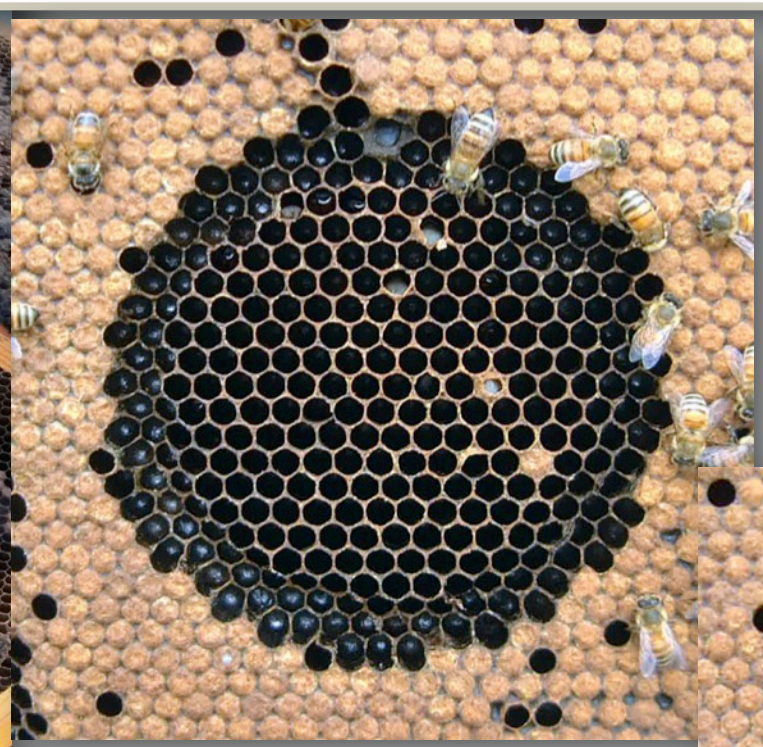
May, 2019
June, 2019
July, 2019
August, 2019
September, 2019
October, 2019
California
Oregon

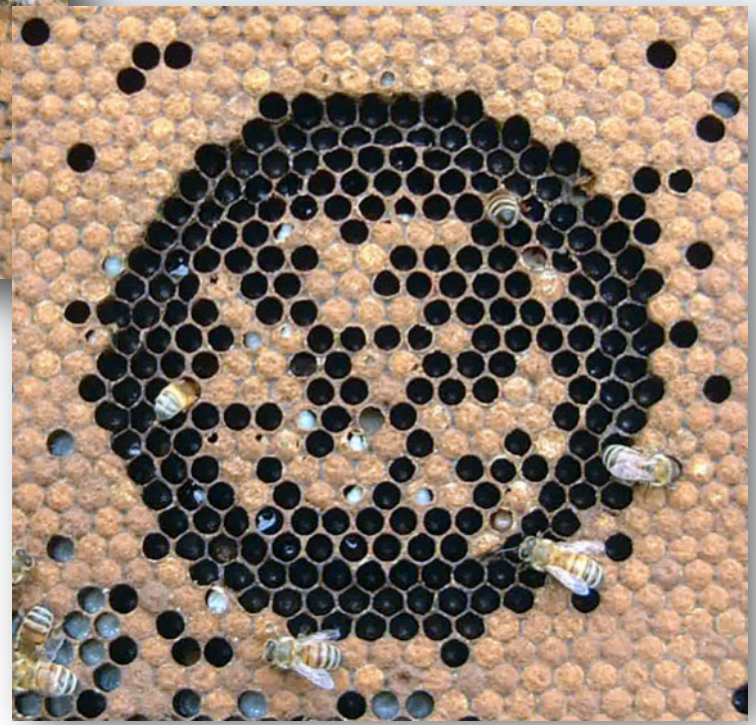






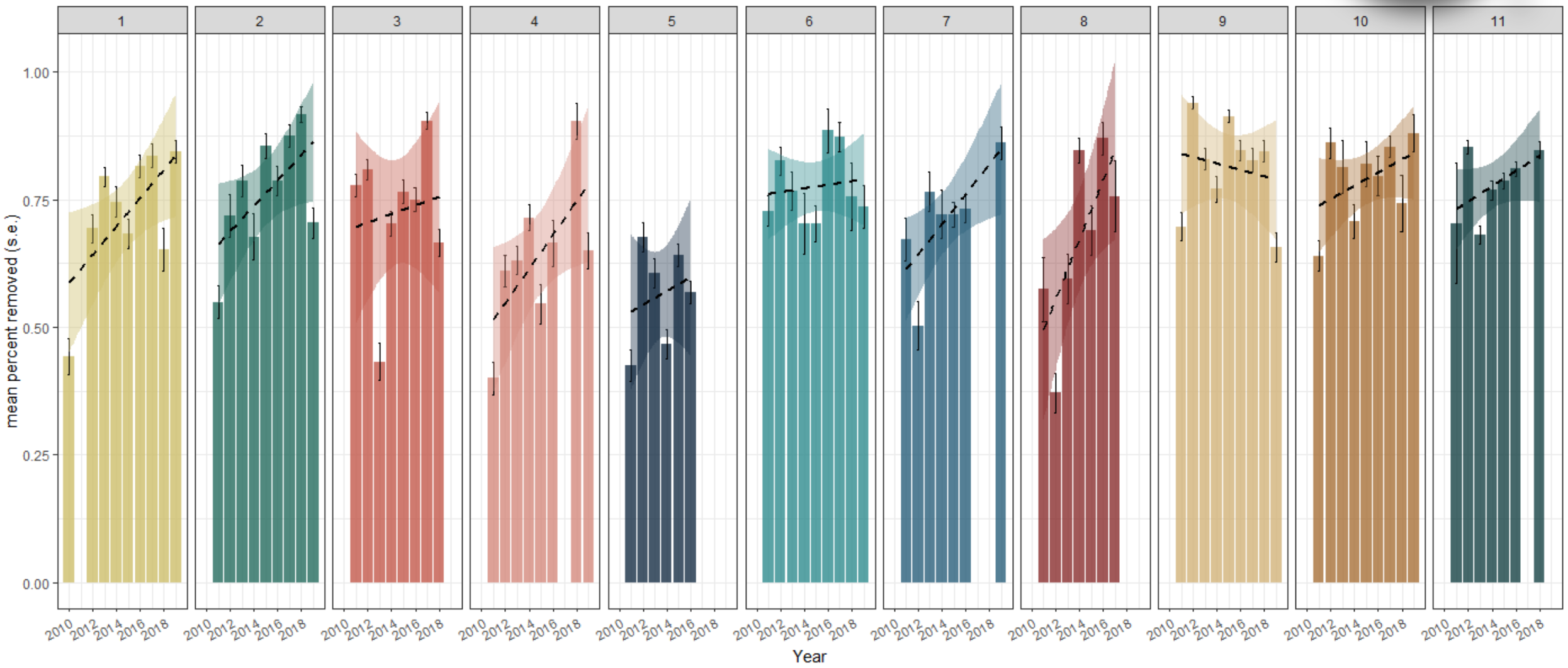
Hygienic scores





Hygienic scores

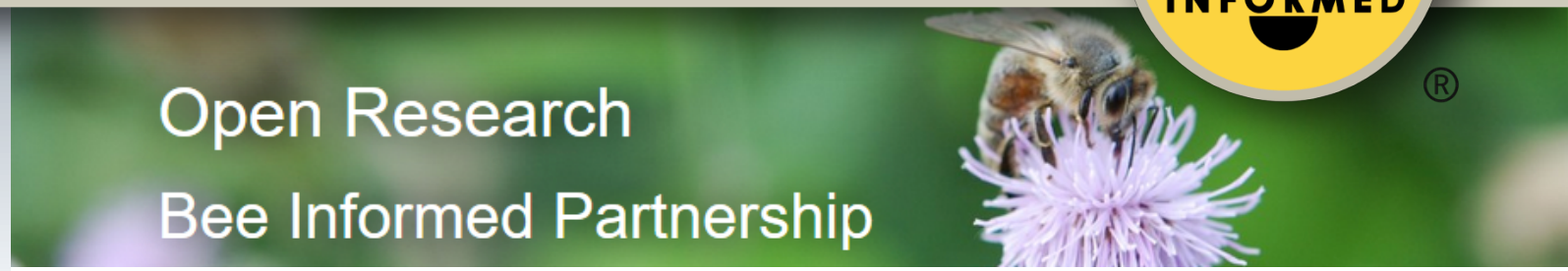
11 beekeepers
4,145 observations



Protein Feeding

https://bip2.beeinformed.org/

- Colony Loss Map
- Management Survey
- Hive Monitors
- Sentinel Apiaries Map
- MiteCheck
- Bee Your Best Survey
- Virus Map
- APHIS State Reports

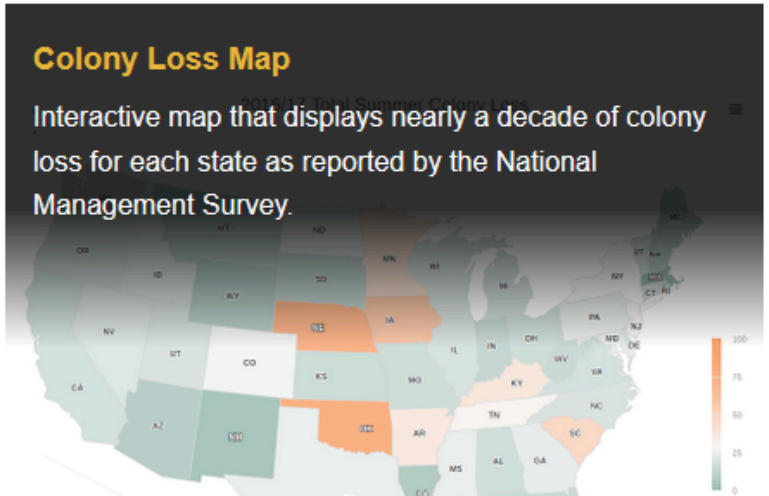


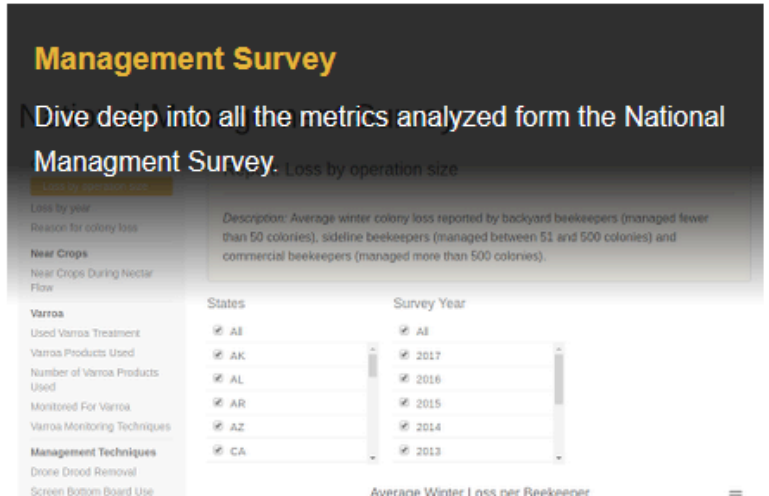
About This Site

The Bee Informed Partnership provides many important services to beekeepers, researchers, and the general public. This site is a platform for publishing useful tools that are open and free for all to use.

We also have a blog site where we frequently publish our research findings, important news, and fun beekeeping info.

Feel free to browse our awesome interactive tools below ☺





We make a difference

Overall Loss
Loss by operation size
Loss by year
Reason for colony loss

Near Crops
Near Crops During Nectar Flow

Varroa
Used Varroa Treatment
Varroa Products Used
Number of Varroa Products Used
Monitored For Varroa
Varroa Monitoring Techniques

Management Techniques
Drone Drood Removal
Screen Bottom Board Use

Management Practices
Used Any Management Product
All Management Products

Feed Products
Used Carbohydrate Feed
Used Protein Feed
Used Any Feed Product
All Feed Products

Comb Management
Average Brood Comb Age

Demographics
Reason for keeping bees
Number of years beekeeping

Report: Varroa Monitoring Techniques

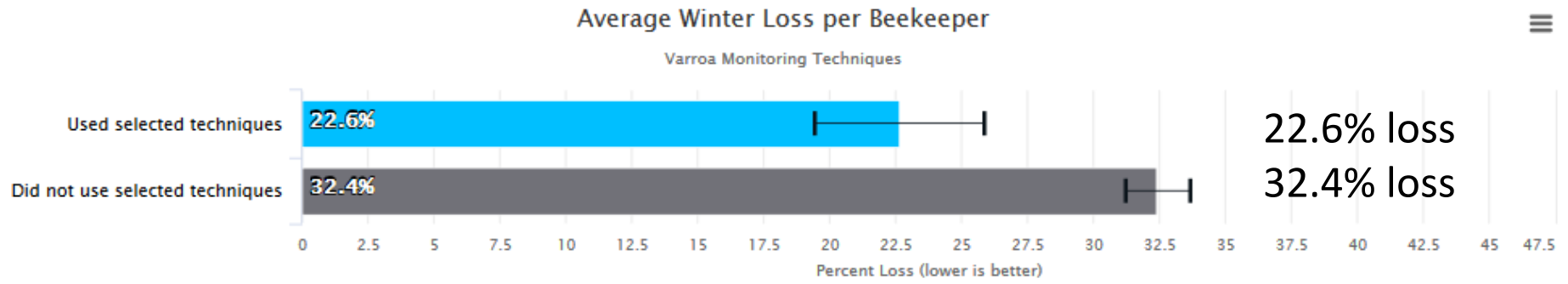
Select one or more monitoring techniques:

- [ ] All
- [ ] Alcohol Wash
- [ ] BIP Samples (other)
- [x] BIP Tech Team Samples
- [ ] Ether Roll

States
- [x] All
- [x] AK
- [x] AL
- [x] AR
- [x] AZ

Operation Size
- [ ] All
- [ ] Backyard
- [x] Sideline
- [x] Commercial

Survey Year
- [x] All
- [x] 2017 - 2018
- [x] 2016 - 2017
- [x] 2015 - 2016
- [x] 2014 - 2015



22.6% loss
32.4% loss

Thank you to our sponsors and collaborators:

USDA

THE JAMES M. COX FOUNDATION

AMERICAN BEE JOURNAL

HONEY BEE HEALTH COALITION

california almonds
Almond Board of California

General Mills
Making Food People Love

Bee Culture
The Magazine of American Beekeeping

Huge Thank You to our Participating Beekeepers!

Be Included. Be Involved. **Bee Informed.**

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Free EFB/AFB Testing:

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